

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims:

1.-8. (Canceled)

9. (New) A sensor element for determining a property of a measuring gas, comprising:
a solid electrolyte;
a diffusion barrier;

at least one electrode applied on the solid electrolyte and being in contact with the measuring gas via a diffusion path in which the diffusion barrier is situated; and

an arrangement, provided in a region of a side of the diffusion barrier facing away from the at least one electrode, for reducing a diffusion cross section in the region of the side of the diffusion barrier facing away from the at least one electrode.

10. (New) The sensor element as recited in Claim 9, wherein the sensor element determines a concentration of a gas component in the measuring gas.

11. (New) The sensor element as recited in Claim 9, wherein the arrangement at least one of has a smaller pore proportion than the diffusion barrier and is gas-impermeable.

12. (New) The sensor element as recited in Claim 9, wherein the diffusion barrier has one of a substantially cylindrical shape and a substantially hollow-cylindrical shape.

13. (New) The sensor element as recited in Claim 12, wherein:

the at least one electrode includes an annular shape and surrounds the diffusion barrier so that an exhaust gas is able to travel through a gas entry opening into an interior region of the diffusion barrier and from there via the diffusion barrier to reach the at least one electrode.

14. (New) The sensor element as recited in Claim 13, wherein the arrangement includes an annular element provided in at least one of a region of an interior lateral surface of the diffusion barrier and a region of the gas entry opening.

15. (New) The sensor element as recited in Claim 13, wherein the arrangement includes at least one arrow-like element provided in at least one of a region of an interior lateral surface of the diffusion barrier and a region of the gas entry opening.

16. (New) The sensor element as recited in Claim 15, wherein a height of the at least one arrow-like element corresponds to a height of the diffusion barrier.

17. (New) The sensor element as recited in Claim 12, wherein:

$$\frac{A_1}{r_1} > \frac{A_2}{r_2},$$

radii r_1 and r_2 relate to a center line of the diffusion barrier,

A_1 indicates the diffusion cross section at a distance r_1 from the center line of the diffusion barrier,

A_2 indicates the diffusion cross section at a distance r_2 from the center line of the diffusion barrier,

the arrangement reduces the diffusion cross section lying at distance r_2 , but not distance r_1 , from the center line of the diffusion barrier, and

r_1 is greater than r_2 .